

## Mike Lovegreen Testimony

Dec. 6<sup>th</sup> - House Majority Policy Committee's hearing about "Maintaining our Creeks and Streams to Prevent Flooding"

Good afternoon honorable committee members, County Commissioners, Township Supervisors and Ladies and Gentlemen.

I've spent the last 40+ years of my professional life working with individuals and communities to address natural resource issues and can easily say, in our region, stream related issues have been by far the most significant.

Streams have adapted to their setting – their respective watershed - over the last 10,000 years (last glacial period). They accomplished this by creating a relatively stable form – depth, cross section, associated flood plains, bedload material, etc. Each of the watersheds that feeds its respective stream system is unique in its precipitation, topography, land cover and soils, and their corresponding streams reflect those features. In this region – Northern Tier PA and Southern Tier NY - we have the dubious distinction of being in a particularly fragile region for stream stability and recovery from changes or impacts.

Over the last 250 years, we have experienced numerous landscape changes that continue to impact on that stability. Mill dams that modified flows, transportation systems that have limited flood plains, development, land alterations associated with that development such as past logging practices etc., drainage projects associated with farming and transportation and even our weather patterns.

Each time we install a driveway on a hillside, install drainage ditches or pave over a part of the landscape without any type of mitigation we take water that once slowly moved across the landscape and rushed it to the receiving stream instead of infiltrating it. The result is, even without considering the significant impact of weather pattern changes, the same amount of water gets to the stream in less time, overwhelming the system. The results are floodplains that are engaging more often and overwhelmed, and the channels themselves adapting to new drainage patterns by enlarging themselves through bank and bed erosion, which in turn creates overwhelming sediment supply that further impacts stream channel capacity.

These stream responses to watershed modification in turn trigger a community response that is often necessary to protect infrastructure and safety. There have been numerous storms in the last several decades where it has been necessary for the DEP and COE to issue hundreds of emergency permits to address absolutely essential concerns, often without sound engineering advice other than "put it back the way it was" regardless if "what it was" was a stable, functional, stream. Unfortunately, quite often, with the best of intentions, our "stream maintenance" efforts can further destabilize the stream system.

There are both good science and engineering approaches to addressing stream issues. Current laws and regulations provide guidance for these approaches. Policies and practices exist to address watershed and hydrologic impacts. Watershed restoration programs exist. Our challenges are all those historic infrastructure impacts that have been created with best of intentions, as well as limited watershed specific health and functional information for our communities to work with. And the reality is that there is never enough funding to provide the engineering and implementation dollars to address those watershed needs.

And finally, “No Action” is not a valid solution. The current instability of our stream channels and flooding issues need to be addressed. Until our watersheds and streams can be stabilized, and that is a long and extensive process, the need for addressing those channel instability and resulting maintenance issues needs to be more flexible and adaptive.

To accomplish this there needs to be cultural change both at the State and Local level that provides the tools and watershed function understanding so that we can begin the process. This has been a goal of programs such as NY’s Emergency Stream Intervention Program and Bradford County’s Stream Pilot Program. By giving communities the tools developed by entities such as the USGS and coupling that by providing communities with the knowledge and understanding of the cause and effect of current and future development and stream maintenance activities, we may be able to begin the process of addressing stream instability, through working with the functional system of a stable stream instead of against it.

It won’t happen over-night, but we can’t keep kicking this down the road. I’ve personally watched millions of dollars in stream channel projects “band-aids” installed and eventually fail by not addressing this issue in a holistic manner. Each time we have a major storm we hold hearings and continue to proceed with the same “play book” of remedies. The current and future vitality of our Northern Tier Communities and the safety of their residents calls to us to finally turn the corner on these issues that have haunted us for generations.

Thank you for your attention to this critical issue and I look forward to finally addressing this major critical issue.